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PLANTAE NOVAE AFRICANAEE.

"Ex Africa semper aliquid novi."—*Pliny*.

SERIES XIII.

By PAYMASTER-CAPTAIN T. M. SALTER, R.N. (Ret.) and Miss E. E.
ESTERHUYSEN.

Erica cremnophila EsterhuySEN and Salter (Ericaceae—Ericoideae)
§ Trigemma.

Fruticulus rupestris diffusus, fere glaber, ramis rigidis flexuosis rugosis, ad 10 cm. longis. *Folia* 3-nata, imbricata et congesta, linearia, patentia vel erecto-patentia, subtriquetra, sulcata, submucronata, (petiolo inclusu) 2—6 mm. longa, petiolis adscendentibus fere 0·6 mm. longis. *Flores* 3-nati, ramulos terminantes. *Pedunculi* fere 2·5 mm. longi, rubri, bracteis 3 spathulatis ad medium vel infra positis. *Sepala* lineari-lanceolata, minutissime glanduloso-ciliata, apice carinata, rubescens 2·5—4 mm. longa. *Corolla* late campanulata, glabra, pallide rosea, 3—4·5 mm. longa, tubo obscure 4-angulato, segmentis rotundatis, 1—1·3 mm. longis. *Stamina* inclusa, erecta: antherae basin versus dorsifixae, anguste ovatae, basi truncatae, 0·7—0·9 mm. longae, poro vix dimidio lobi: aristae deflexae, anguste lanceolatae, fere 0·6 mm. longae, margine minute scabridae. *Ovarium* depresso-globosum, glabrum, stylo inclusu satis crassiusculo, stigmate capitato.

Hab. Cape Province: Cape Peninsula: on cliffs facing north-west at about 2,000 ft. on Devils Peak, *EsterhuySEN* 1210 (*type* in Bolus Herbarium), *Adamson* 2510: similar situations on Kloof Corner, Table Mt. *EsterhuySEN* 1212: Fountain Ledge, 1216: Wood Buttress, 1217 (possibly a hybrid with *E. depressa* L.). Flowers May—Sept.

A small tufted rock species, rooting in clefts or cracks on bare massive cliffs and more or less adpressed to the rock. It is an inconspicuous plant and it appears to be rare, or at least it only occurs in places which are not easily accessible. The bell-shaped corolla is rosy pink on the side facing the light and almost white on the other side.

It is an affinity of *E. depressa* L. and the larger specimens from Wood Buttress (1217) are possibly hybrids with that species which sometimes occurs in the same vicinity, though it has not been seen growing in actual association. It differs from *E. depressa* (a white-flowered species) in the smaller size of all its parts, smaller and narrower leaves, colour of the corolla which is more broadly campanulate, and in the proportionately broader and shorter anthers which are not oblique at the base.

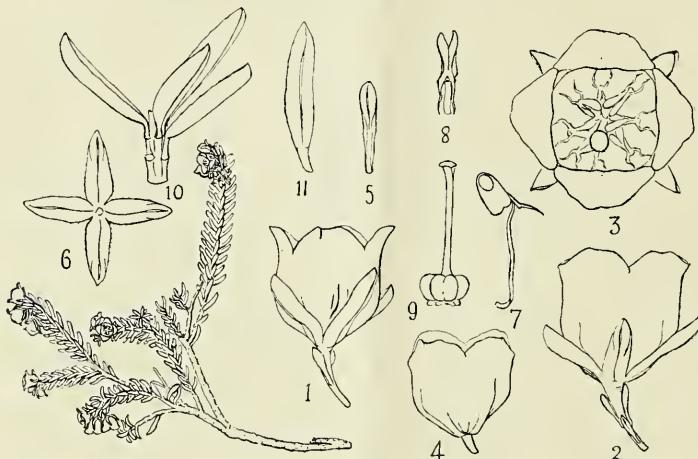


FIG. 1. *Erica cremnophila* Esterhuysen and Salter. 1 and 2. Flowers $\times 5$. 3. Flower from above $\times 5$. 4. Corolla $\times 5$. 5. Bract $\times 6$. 6. Whorl of leaves $\times 5$. 7 and 8. Stamen $\times 10$. 9. Gynoecium $\times 10$. 10. Gynoecium $\times 5$. 11. Leaf, under side $\times 5$. (Esterhuysen 1210.) Del. E. Esterhuysen.

Lotononis sabulosa Salter (Leguminosae—Papilionatae).

Herba gracilis procumbens, partibus herbaceis pilis adpressis canescens, tibus strigosis. Caules graciles, satis numerosi, procumbentes, late extensi, ramosi, 30—40 cm. longi, in parte inferiore lignei. Stipulae solitariae, lanceolatae, 3—4 mm. longae, saepe falcatae. Folia alternata, trifoliata, petiolis plerumque 1—1.5 cm. longis: foliola lineari-oblonga vel cuneato-oblonga, obtusa, breve petiolulata, utrinque strigosa, medium 1—1.5 cm. longum, lateralia paulum breviora. Pedunculi foliis

oppositi, 1—2·5 cm. longi, umbellate 3—5-flori: bracteae parvae, subulatae: pedicelli 2—2·5 mm. longi. *Calyx* fere 4 mm. longus, lobis late lanceolatis, acuminatis, tubo aequantibus, inferiore paulum angustiore vix longiore. *Petala* pallide viridi-lutea, ad apicem lutescentia. *Vexillum* 7—8 mm. longum: lamina oblonga, 3 mm. lata, carinato-apiculata, marginibus constrictis, nervo medio nigrescente et pubescente: unguis cymbiformis, 3—3·5 mm. longus. *Carina* subacuta, erecta, vexillo aequans, alis paulum longior. *Ovarium* multi-ovulatum. *Legumen* oblongum, compressum, 2—2·4 cm. longum, 4 mm. latum, satis dense strigosum.

Hab. Cape Peninsula, on sand dunes near Rugby, *Levyns* 7047 (*type* in Bolus Herbarium): Malmesbury Div., Hopefield, E. Kensit (Bolus Herb. 13668). Flowers September.

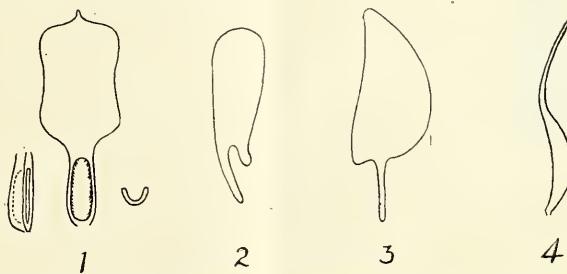


FIG. 2. *Lotononis sabulosa*, Salter. 1. Vexillum, with side view and cross section of the claw. 2. Ala. 3. Carina. 4. Ovary. All $\times 4$. (*Levyns* 7047.)
Del. T. M. Salter.

This species is distinguished in the § *Oxidium* by the deeply concave or boat-shaped claw of the vexillum. Although several of the species placed in this section in the Flora Capensis are considered by some authors to belong to the genus *Crotalaria* L., and are indeed intermediate between the two genera, the erect keel, flat pod and the calyx of *L. sabulosa* are distinctly characteristic of *Lotononis*.

It appears to be rare or at any rate overlooked. The flowers are insignificant, the petals being pale greenish-yellow in the lower part, becoming brighter yellow towards their tips.

Oxalis dichotoma Salter. (Oxalidaceae) § *Cernuae*.

Planta gracilis, fere glabra, ad 15 cm. alta, caule non exserto. *Bulbus* globosus, apice rostratus, fere 2 cm. longus, tunicis planis atro-brunneis. *Folia* basalia, petiolis 4—8 cm. longis: foliola 3, petiolulis brevissimis sparsely villosis, in ambitu triangularia, 1—2·2 cm. longa, 1·4—2·4 cm.

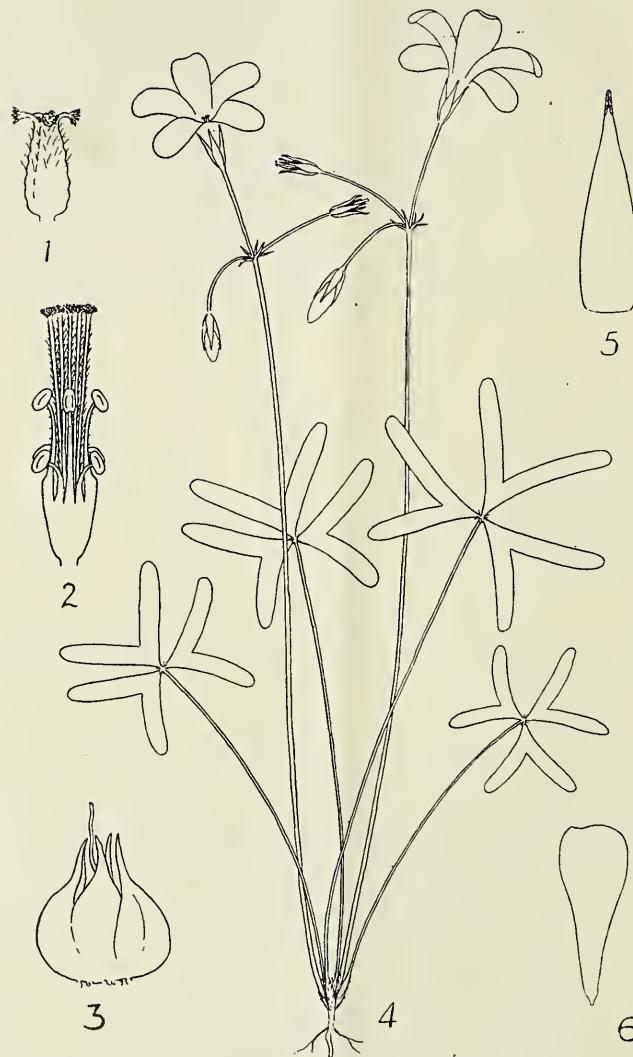


FIG. 3. *Oxalis dichotoma* Salter. 1. Gynaecium $\times 6$. 2. Androecium $\times 6$. 3. Bulb, natural size. 4. Plant, natural size. 5. Sepal $\times 5$. 6. Petal $\times 1\frac{1}{2}$ (Salter 6720.) Del. T. M. Salter.

lata, basin versus cuneate angustata, prope basi tenus biloba, lobis oblongis obtusis. *Pedunculi* foliis 2-plo longiores : bracteae subulatae, ad 4 mm. longae, ecallosae : pedicelli 2—4, sicut sepala glabri, 1—2.5 cm. longi. *Sepala* anguste lanceolata, acuminata, 6—7 mm. longa, callis 2 elongatis aurantiacis apice ornata. *Corolla* 1.5—2 cm. longa, violacea, tubo infundibuliforme lutescente : petala cuneata, 5—7 mm. lata. *Filamenta* (parte connata inclusa), minora 2.5—4.5 mm., glabra, majora 4—7.5 mm. longa, sparse glanduloso-pilosa, gibbosa. *Ovarium* 2.2 mm. longum, superne sparse pubescens, loculis multi-ovulatis, stylis pubescentibus.

Hab. Cape Province : Oudtshoorn Div., between Gamka River Causeway and Calitzdorp, 4 miles from Calitzdorp, Salter 6720, (*type* in Bolus Herbarium). Flowered in cultivation May—June.

The smooth beaked bulb shows this species to be associated with the stellata group. It is probably most nearly related to *O. caprina* L., differing from that species in its larger bulb, very deeply bilobed leaflets and deeper-coloured flowers. It has been grown in the National Botanic Gardens at Kirstenbosch from bulbs collected in the locality cited.

Oxalis haedulipes Salter. (Oxalidaceae) § Cernuae.

Planta gracilis, 15—20 cm. alta, caule saepe exerto, partibus herbaceis sparsissime pubescentibus vel glabris. *Bulbus* anguste ovoides, apice acute rostratus, ad 3.5 cm. longus, radice contrahendi : tunicae rigidissimae, longitudinaliter valde costatae, pallide albo-brunneae vel griseae. *Caulis* gracilis, ad 10 cm. longus vel interdum non exsertus, squamis paucis instructus. *Folia* satis numerosa, ad caulis apicem aggregata, rare 1—2 caulina : petioli gracillimi, plerumque 3—6 cm. longi, rare longiores : foliola 3, breve petiolulata, latissime cuneato-obcordata vel cuneato-bilobata, fere 1/3 incisa, 5—10 mm. longa, 0.7—1.4 cm. lata, infra saepe livida, lobis apice rotundatis. *Pedunculi* 1—6, apicales, 5—15 cm. longi : bracteae parvae, lanceolatae, apice aurantiaco-callosae : pedicelli 2—6, graciles, plerumque 1—2 cm. longi, post anthesin reflexi. *Sepala* lanceolata, 4—4.5 mm. longa, sparse pubescentia, apice callis 2 aurantiacis parvis ornata. *Corolla* 1.1—1.4 cm. longa, lutea, tubo late infundibuliforme concolore : petala cuneata, antice rotundata, fere 5 mm. lata. *Filamenta* (parte connata inclusa) majora 6 mm. longa, acute dentata, pilis simplicibus capitatisque pilosa. *Ovarium* ovoidum, 1.5 mm. longum, in dimidio superiore pubescens, loculis fere 10-ovulatis : styli pubescentes. *Capsula* elongata, 0.8—1 cm. longa.

Hab. Kalahari Region : Griqualand West ; Kimberley, Esterhuysen 764 (*type* in Bolus Herbarium), Lewis (S.A. Mus. 53373), Moran (Bol.

Herb. 14579), *Wilman* (Bol. Herb. 15888 and S.A. Mus. 13310); Daniel's Kuil, *Lawson* (Bol. Herb. 20390); Barkly West, *Acock* 225; Langeberg Range, Mt. Toto, *Rennie* (Salter 5781). Flowers Jan.—April.

This species, which grows in rocky places, appears at first sight to be a form of *O. pes caprae* L., but it is more slender and very much smaller than most forms of that species. Its hard ridged whitish-brown or greyish bulb, however, shows it to be an affinity of *O. copiosa* Bolus f., a Namaqualand plant which should undoubtedly be assigned to the Section Cernuae, for although the peduncles of the type specimen are single-flowered, the species frequently produces 2-flowered peduncles and is thus, like *O. anomala* Salter, one of the linking species between the umbellate and single-flowered Sections.

O. haedulipes differs from *O. copiosa* in being more lax, in having an exserted stem, longer peduncles bearing 2—6 much smaller flowers and in its shorter stamens which are not exserted from the tube of the corolla.

***Oxalis purpurascens* Salter (Oxalidaceae) § Cernuae.**

Planta glabrescens, ad 20 cm. alta, caule rare exerto. *Bulbus* anguste ovoideus, acute rostratus, 5—7 cm. longus, radicee contrahenti: tunicae rigidae, lanceolatae, acuminatae, castaneae, nervis prominentibus longitudinaliter costatae. *Folia* ad 20, basalia vel rare ad caulis apicem aggregata, 1—2 caulina, petiolis ad 10 cm. longis: foliola latissime obeordata, antice late incisa, ad basin interdum cuneata, 0·8—1·4 cm. longa, 1·2—1·7 cm. lata. *Pedunculi* 8—17 cm. longi: pedieelli 3—5, 1—2 cm. longi, sicut sepala sparsissime pilosi. *Sepala* late lanceolata, 5—6 mm. longa, apice aurantiaco-callosa. *Corolla* glabra, vix 2 cm. longa (in secco) roseo-purpurea, tubo luteo. *Filamenta* majora 4·5 mm. longa, pubescentia, edentata. *Ovarium* glabrum, loculis fere 5-ovulatis, stylis pubescentibus.

Hab. South-West Africa: Windhoek region, between Hani and the Awas Mountains, on high plateau and river bed, *Pearson* (Percy Sladen Memorial Expedition, 1915—16) 9600 (*type* in Bolus Herbarium); Awas Mts. *Pearson* 9613; Hani, 9561; Schakalskuppe, on mountain slopes at 5200 ft., 4223: Kuibis, Range 355; Grootfontein, *Schoenfelder* 490. Flowers Jan.—Feb.

This somewhat inadequate description has been compiled from the rather imperfect specimens cited above and is only published with a view to rectifying the very misleading citations of specimens under *O. purpurata* Jacq., var. β *Jacquinii* Sond. in Pflanzenreich—Oxalidaceae, 1930.

Of these citations *Wood* (Galpin 3243) is the species I have described as *O. stenorhyncha*, *Schlechter* 6232 is *O. semiloba* Sond. and of the

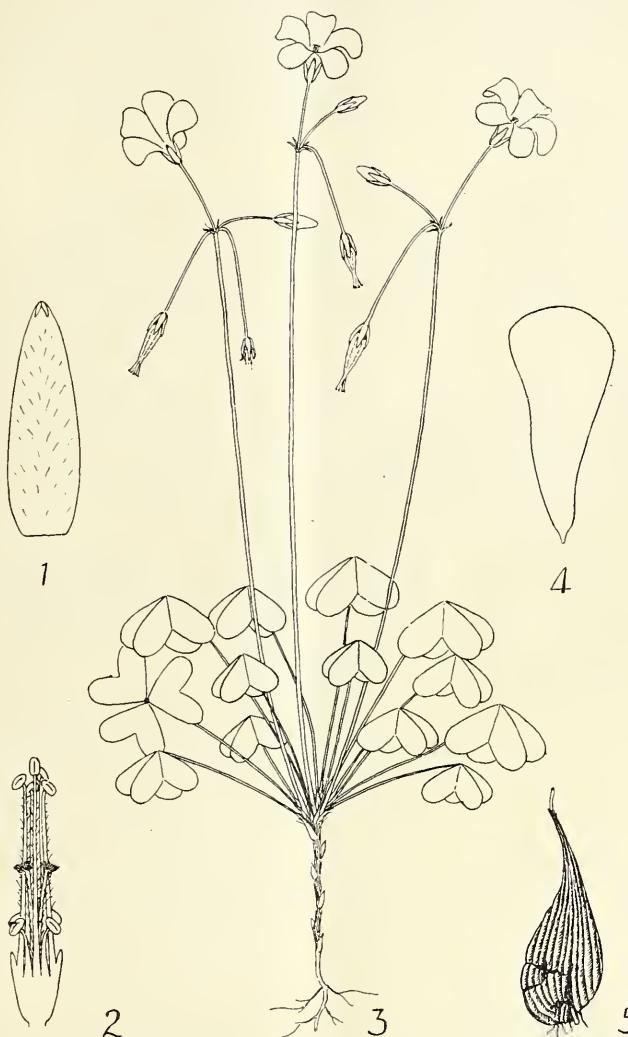


FIG. 4. *Oxalis haedulipes* Salter. 1. Sepal \times 8. 2. Androecium \times 6. 3. Plant, natural size. 4. Petal \times 3. 5. Bulb, natural size. Del. T. M. Salter.

remainder, certainly Range 355 from Kuibis and probably all the others from S.-W. Africa are the species here described.

O. purpurascens resembles some forms of *O. semiloba* Sond., from which it is distinguished by its large elongate bulb, with rigid chestnut-brown longitudinally-ridged tunics. It should be placed with the white-flowered *O. pseudo-cernua* R. Knuth, which has a very similar bulb, in a separate sub-section of the Section Cernuae, viz. Costatae Salter. See Plate IV, Fig. 2.

***Oxalis stenorhyncha* Salter (Oxalidaceae) § Cernuae.**

Planta robusta, fere glabra, ad 25 cm. alta, caule exserto. *Bulbus* ovoideus, apice longissime angusteque rostratus, rostro bulbo satis longiore, totus 5—7 cm. longus : tunicae exteriores papyraceae, pallide fuscae, apice attenuatae et torquentes. *Caulis* robustus, ad 14 cm. longus, 2 mm. diam., interdum ramosus. *Folia* numerosa, caulis ramorumque apicibus aggregata : petioli 2—4 cm. longi, basin versus infra articulum ampliati et squamiformes : foliola 3, petiolulis brevibus sparse villosa, in ambitu triangularia, bilobata ad medium vel ultra, 1—1·4 cm. longa, 1—2 cm. lata, lobis oblongis obtusis, 3—4 mm. latis, rare latioribus. *Pedunculi* foliis ad 2-plo longiores : bracteae lineares, apice minutiae callosae : pedicelli ad 7, 1—2 cm. longi, post anthesin deflexi. *Sepala* oblongo-lanceolata, 5—6 mm. longa, apice callis 2 elongatis aurantiacis ornata. *Corolla* 1—1·3 cm. longa, miniatia vel salmonea, tubo late infundibuliforme luteo : petala cuneata, 5—6 mm. lata. *Filamenta* (parte connata inclusa), majora 3·5—5 mm. longa, glandulosa, gibbosa vel breve dentata. *Ovarium* glabrum, loculis 2—3-ovulatis, stylis pilis pluricellularibus pilosis. *Capsula* subglobosa.

Hab. Cape Province : King William's Town, Line Drift, near Keiskama River, F. Leighton (Salter 2290, type in Bolus Herbarium), 4371 : Grahamstown, Dyer 1383, Britten 2781 : Komgha, Flanagan 2329 : Port Alfred, Tyson (Pretoria Herbarium 12583, Britten 2128, White 56, 84, Rogers, Salisbury, Heny : East London, Galpin 5663, Wood (Galpin 3243), Salter 379/46.

An affinity of *O. stellata* E. & Z., differing in its remarkably long-beaked bulb with papery ash-coloured tunics which twist round the beak, and also in having smaller, brick-red or salmon flowers and shorter, wider and more obtuse lobes to the leaflets. See Plate V, Fig. 1.

***Oxalis livida* Jacq., var. *altior* Salter (Oxalidaceae) § Cernuae.**

(*O. liniflora* E. & Z.—*O. lateriflora* Jacq., var. *liniflora* (E. & Z.) Sond.) A forma typica differt :—*Planta* major umbratica, saepe 30—50 cm. alta. *Bulbus* 1·5—3 cm. longus, radice contrahendi verticale ad 3 cm. diam.

Folia ad caulis apicem et saepe in caule aggregata, petiolis elongatis : foliola in ambitu triangularia, ad basin leviter attenuata, 1—1·4 cm. longa, apice 1—1·8 cm. lata, fere basi tenus bilobulata, lobis linearibus obtusis. *Pedunculi* 2—4, caulinis vel rarius unus terminalis. *Sepala* 5—7 mm. longa. *Corolla* major, 1·6—2 cm. longa, pallide violacea, tubo luteo-viride : petala purpureo-marginata.

Hab. Clanwilliam Division : Brakfontein, E. & Z. 662 (*type*) ; near Olifant's River, E. & Z. 663 (*O. liniflora* E. & Z.) ; Modderfontein, Schlechter 7964 ; Warm Baths, Edwards 106, F. Bolus (Bol. Herb. 14598) ; Grey's Pass, Leipoldt (Bol. Herb. 19677, 19770), Salter 752, 7350 ; Doorn Bridge, Salter 734.

This variety, which is at present only recorded from the Clanwilliam Division, is taller and larger in all parts than the typical *O. livida* Jacq., which has rose-coloured flowers. The leaflets are more deeply divided, with narrower lobes and the larger corolla is a very pale violet with purple margins on the petals.

It has, perhaps on account of its elongate habit, long been confused with *O. lateriflora* Jacq., a species which has no contractile root, but produces lateral underground runners. (See Jaequin Hort. Schoenbr. II, 41, t. 204,—an exceptionally elongate specimen.) *O. livida*, on the other hand, does not produce lateral runners, but has a large contractile root. See Plate II.

***Oxalis stellata* E & Z., var. *montaguensis* Salter (Oxalidaceae)**
§ Cernuae.

A forma typica differt :—*Planta* compactior, caule breviore, deinde bulbillis aereis sessilibus in foliorum axillis saepe congestis. *Caulis* 3—4 mm. longus. *Folia* late bilobata ad medium vel ultra, lobis oblongis vel oblongo-obovatis, obtusis.

Almost glabrous, rather compact. Bulb beaked. Stem 3—4 cm. long, rarely branched, often producing bulbils in the leaf axils after the flowering period. Leaves 12—15, terminally congested, with pedicels 2—4 cm. long : leaflets widely bilobed, divided to the middle or rather more, the lobes oblong-obovate or oblong, obtuse. Peduncles twice as long as the leaves : pedicels 4—5, 1·5—2·5 cm. long. Flowers 1·5—1·8 cm. long, pale violaceous with a greenish-yellow tube. Ovary glabrous, the chambers 4-ovuled.

Hab. Cape Province : Montagu Div., Cogman's Kloof, Salter 2315 (*type* in Bolus Herbarium). Fl. (in cultivation) April—May.

The leaflets in this variety differ in shape from those of the typical *O. stellata*, which are divided nearly to the base, the narrow, somewhat acute lobes tapering towards the apex. In the variety they are shorter

and much broader, widening upwards to a rounded obtuse apex. The production of aerial bulbils has not been recorded in any other form of this species. See Plate V, Fig. 2.

***Oxalis stellata* E & Z., var. *gracilior* Salter (Oxalidaceae) § Cernuae.**

A forma typica differt :—*Planta* minor, omnino gracilior, ad 15 cm. alta. *Bulbus* minor, fere 1·5 cm. longus, rostro breviore, tunicis tenuioribus. *Foliola* minora, tenuiora, lobis minus late divergentibus, apicem versus leviter ampliatis, obtusis. *Corolla* 1—1·3 cm. longa, rosea. *Ovarii* loculi 2—3-ovulati.

Almost entirely glabrous, very slender, up to 15 cm. high. Bulb ovoid, shortly beaked at the apex, about 1·5 cm. long, with thin tunics. Stem 1—4 cm. long. Leaves 4—12, usually apical, with filiform petioles 2—4 cm. long : leaflets triangular, deeply bilobed, 6—8 mm. wide across the apex. Peduncles 6—8 cm. long, caudine or apical, 2—4-flowered : pedicels 1·5—2 cm. long. Sepals lanceolate, 3—3·5 mm. long, bicallous. Corolla rosy, 1·1—1·3 cm. long, with a yellowish tube : petals cuneate, subtruncate. Ovary pilose on the upper half, the chambers 2—3-ovuled : styles pubescent.

Hab. Cape Province : near George, Salter 3175, April 1933 (*type* in Bolus Herbarium).

A smaller and more slender plant than the typical *O. stellata*, having much smaller flowers. The leaflets are thinner and 2/3 to $\frac{3}{4}$ bilobed, the lobes less widely divergent than in other forms of *O. stellata* and widening slightly upwards to the obtuse apex. It resembles var. *glandulosa* Salter, but is still more slender and differs in having entirely glabrous pedicels and sepals, a rosy corolla and only 2—3 ovules in each ovary-chamber.